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ABSTRACT

The paper presents preliminary data from a project at the University of Kansas to identify preservice training needs for occupational therapy service delivery to handicapped students in rural education settings. Survey responses of current occupational therapy students at the University of Kansas (N=55) were evaluated as well as responses from pediatric therapists working in rural communities (N=10) and urban communities (N=19) in Kansas, Iowa, Nebraska, and Missouri. Results indicated that occupational therapists working in both rural and urban areas reported similar educational backgrounds and years of practice and agreed on the most important preservice content areas and the needs of occupational therapy in educational settings. Rural personnel were more likely to employ alternate patterns of service provision and to serve persons throughout their development into adulthood. Students of occupational therapy tended to lack an understanding of the educational system. All personnel need a better understanding of what educators know and are capable of doing in their classrooms and ways to more efficiently utilize available resources. (DB)

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MANAGING OCCUPATIONAL THERAPY IN RURAL EDUCATION ("M. O. R. E.") INITIAL FINDINGS

The need for competent related service personnel, particularly occupational therapists, to serve in rural educational areas has been well documented. Two-thirds of all United State schools are located in rural areas, and the majority of unserved and underserved handicapped children are enrolled in these rural schools (Clark and White, 1985; Massey and Crosby, 1983). In the past, there has been some debate regarding what constitutes a rural district. Helge (1984) reports that a district is considered rural when the number of inhabitants is fewer than 150 per square mile or when located in counties with 60% or more of the population living in communities no larger than 5,000 inhabitants. Districts with more than 10,000 students and those within a Standard Metropolitan Statistical Area, as determined by the United States Census Bureau, are not considered rural.

A major problem in rural education is recruitment and retention of qualified staff (Helge, 1984; Will, 1985; Latham and Burnham, 1985; Kirmer, Lockwood, Mickler and Sweeney, 1984; Marrs, 1984). A 40% to 50% attrition rate annually is typical (Will, 1985). A survey conducted in 1983 by the National Rural Project reported that only 17% of rural districts and special education cooperatives indicated that they had an adequate number of special education personnel. In a recent report filed by the Ad Hoc Commission on Occupational Therapy Manpower, data collected annually by the U.S. Office of Special Education Program, U.S. Department of Education, reports the needs for occupational therapists have consistently outnumbered the supply. In 1983, state special education departments indicated a need for 20.5 percent more occupational therapists than were currently employed under Part B funding of P.L. 94-142 (OT Manpower). Helge (1984) notes that itinerant positions, such as occupational therapists, are most often not filled. Preservice training which does not consider rural needs, contribute to chronic vacancies of these positions.

Recognizing the need for preservice training of occupational therapists to serve in school systems, the Bureau of Education for the Handicapped in 1978 funded the American Occupational Therapy Association to develop a model for training occupational

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therapists employed in school systems (Gilfoyle and Hays, 1979). The Special Education Department at the University of Kansas developed a special tract for occupational and physical therapists pursuing a masters degree in Special Education. Their project, funded by OSERS in 1980, developed and implemented a model to prepare therapists to serve as consultants to programs for severely handicapped students in public school settings.

In order for therapists to integrate services into rural school systems they need to have an understanding of the system, its educational aims, and its philosophy (Regan,1982). Punwar and Wendt (1980) outlined the effort to mandate occupational therapists in Wisconsin to be certified by the Department of Public Instruction for those therapists serving in public schools. Identification of competencies and relevant curriculum content were established as cornerstones of certification standards.

The need to alter and adapt types of service provision for occupational therapists is essential in rural settings. Through preservice training, the necessary understanding of the roles a consultant and knowledge of different types of service delivery can be taught. The skills of a consultant are essential to service delivery in educational setting (Dunn, 1985). Dunn (1985) notes that the demographics of school (rural vs. urban) do not change teacher or administrators preference of consultative style.

A survey of educators, therapists and administrators in the midwest area (Kansas, Iowa, Nebraska, and Missouri) conducted by Dunn (1986) asked pertinent questions reflective of the need for related service of occupational therapy in rural educational settings. University bachelor's level programs in these states did not have preservice training for service in rural education although all departments expressed a need for such a curriculum. State agencies recognized the need for preservice training and reported chronic vacancies in rural settings for occupational therapists. Additionally all reported that due to lack of services, children with special needs are either unserved, underserved, or most travel to the closest urban setting for services.

Special education directors reported that of related services personnel an occupational therapist could best serve their programs' needs (Dunn, 1986). This preference was also supported by a survey completed by Guess (1980) at the University of Kansas. Teachers of severely multiply handicapped students ranked their perceptions of contributions from other professionals and disciplines in the education of students in their classroom. The results indicated that teachers perceive occupational therapists as the most needed service, followed by physical therapy and speech pathology, medicine, nursing, social work, and psychology. Additional concerns expressed by special education directors include (1) lack of preservice training for occupational therapy serving in school settings, (2) difficulty with currently employed therapists continuing to rely solely on the medical model and (3) inability of therapists to identify and implement appropriate

methods and amounts of service delivery in rural education settings.

In order to address these needs, the Occupational Therapy Education Department at the University of Kansas designed a preservice training model. The project is funded by OSERS to investigate preservice training needs for service delivery to rural education settings. This paper will present preliminary data on trends of rural needs that have been identified and suggest plans for preservice training.

METHODS

POPULATIONS:

For purposes of this study occupational therapy students and pediatric occupational therapists were surveyed.

All Semester I students enrolled in the Occupational Therapy Curriculum at the University of Kansas Medical Center during the Fall 1987 semester were asked to participate in the initial data collection. This group was comprised of 61 students who were newly entering the program. These students were enrolled in a developmental life task course and a fieldwork course providing them exposure to the pediatric age group. These students completed the surveys and questionnaires in early November 1987.

Occupational therapy personnel currently practicing in pediatrics in Kansas, Iowa, Nebraska, and Missouri were also sent questionnaires and surveys. Both rural and urban based personnel were included. For purposes of this study, criteria established by Helge (1984) was used to determine those personnel in serving in rural communities and those serving in urban communities. The names of the therapists were obtained through state occupational therapy associations and through the state departments of education. The forms were sent to 95 therapists.

INSTRUMENTS/MATERIALS:

Three documents were used in collected data presented here. Occupational therapy students and pediatric occupational therapy personnel were asked to complete the Attitudes Toward School-Based Services (ATSBS) survey from Training Occupational Therapy Educational Management in Schools (Gilfoyle,1981). Respondents were asked to indicate how much she or he agreed or disagreed with 36 statements regarding school-based services on a scale for -3 ("I disagree very much") to +3 ("I agree very much").

The second instrument both students and occupational therapy personnel were asked to complete is the Classroom Integration Questionnaire (CIQ). This questionnaire, taken from Mainstreaming: Learners and their Environment (Kaufman, Agard, and Semmel, 1985), presents the reader with vignettes of 25 children with primarily cognitive or behavior problems. The CIQ asks respondents to indicate appropriate classroom placement for

each child: a regular classroom, a regular classroom all day with supplemental materials and advice, a regular classroom part of the day with supplemental materials and advice, a special class all day, or not for public education.

Occupational therapy personnel were asked to complete a third document, Occupational Therapy Needs Survey (OTNS) developed by the MORE project staff. The survey included demographic information, questions regarding roles, preservice training needs, challenges of service provision in educational settings, inservice topics, team members, resources, and caseloads.

PROCEDURES:

The Semester I occupational therapy students were asked to complete the ATSBS and the CIQ during a one-hour home-room period in early November. Students were given an abstract outlining the project and a letter stating their participation was requested but not mandatory. Each student was given a set of forms to complete. As the forms were completed, each student indicated their number on a master list developed for longitudinal purposes.

The occupational therapy personnel received a packet in the mail containing an introductory letter, the project abstract, a consent form, the coded instruments used for data collection, and a self-addressed, stamped envelop. The packets were mailed in mid-October with a return requested in one month.

Responses from each questionnaire or survey were tabulated by frequency, and analyzed. The percent of frequency was compared for each group (occupational therapy students, rural occupational therapy personnel, urban occupational therapy personnel).

Results

Of the 61 occupational therapy students, 55 students (90%) completed the packet. Six students (10%) chose not to participate. Of the 95 occupational therapy personnel surveyed, 29 (31%) responded to the surveys and questionnaires at the end of 2 months. Of the responding occupational therapy personnel, 19 (65%) were identified as urban-based therapists and 10 (34%) were identified as rural-based personnel.

Table 1 presents the demographic information about the occupational therapy personnel. As indicated in the table, the urban and rural personnel are relatively equal in educational background, years of practice in occupational therapy, years in pediatrics, and years practicing in the public schools. Differences were noted in number of schools served, number of miles traveled each week, and in the number of children served by each therapist.

The OTNS was completed by all occupational therapy personnel returning their packets. The participants were asked to list their top five concerns in preservice training and needs in occupational therapy service delivery in educational settings.

Table 2 lists the preservice content areas listed by rural and urban occupational therapy personnel. The areas noted by both groups as most important include advanced sciences, child development, communication skills, knowledge of educational philosophy and aims, evaluation and interpretation skills, and writing individualized educational program.

The OTNS also asked respondents to list needs of occupational therapy service delivery in educational settings. Table 3 lists needs as stated by rural and urban personnel. As listed in the table, the top 3 needs for both groups are issues of service provision in terms of caseload size, time, space, and money; consultation skills; and continuing education resources. Many other areas of overlap existed, although each need had differing frequency from group to group.

The ATSBS was completed by the occupational therapy students, the rural occupational therapy personnel, and the urban occupational therapy personnel.

Although respondents had 6 categories of choices (-3, -2, -1, +1, +2, +3), responses were grouped into negative (-3, -2), neutral (-1, +1), or positive (+2, +3) categories. Responses were analyzed first by grouping items into five content areas. The results of the content area analysis are picture in Graph 1. Percentage groupings were essentially the same across all groups in each area when comparing the percent of negative, neutral, and positive responses. Three items had less than a 20% difference in response patterns across groups; 15 items showed a 20-30% difference; 7 items showed a 30-40% difference; 7 items showed a 40-50% difference; and 4 items showed a 50% or more difference. Table 4 presents the pattern of differences for the 4 items with more than 50% difference.

The CIQ has items describing children who have cognitive problems (N=11) and children who have behavior problems (N=12). Two items described children with both cognitive and behavior problems. Percent of responses to each level of classroom placement were plotted for the 25 items. Visual inspection revealed that 22 items had very similar patterns of choices across all three groups, with students and therapists most frequently choosing mainstreamed with special classroom help, resources room and special class placement. The three items that generated significantly different patterns of response were vignettes about children with cognitive difficulties which lead to poor ability to follow instructions necessitating the use of concrete directions and materials.

Discussion:

Occupational therapy personnel working in both rural and urban areas in four midwest states report similar educational backgrounds, years of practice in occupational therapy and specifically in pediatrics within the public schools. Differences appear in the number of schools and children served by each per-

sonnel and to a greater extent the number of miles traveled to provide these services. Rural personnel reported having an average of more than four times as many miles per week as urban personnel. The rural personnel also averaged 50% more schools served and 25% more children on their caseloads. These additional factors require rural based personnel to consider other service provision patterns such as monitoring and consultation as a means of addressing these needs. Children in rural areas may receive direct service less frequently than children in urban areas.

The OTNS results indicate that rural and urban occupational therapy personnel agree on the most important preservice content areas necessary for working in their particular settings. These include knowledge about the basic sciences, child development , and communication and evaluation and interpretation skills. These skills are desirable in all areas of occupational therapy practice. Additionally both groups listed knowledge of educational philosophy and aims as well as the Individual Education Planning process as necessary content. These additional areas indicate the significance the personnel place on occupational therapy personnel having knowledge of working in a school setting prior to accepting a position.

Occupational therapy personnel also responded similarly when asked to list the needs of occupational therapy in education settings. Although with differing frequencies, both the rural and urban personnel listed issues of service provision (caseload size, time, space for therapy, money for equipment); consultation skills; and continuing education resources as the top three areas of need. This suggests that even though service provision patterns differ, many basic needs are the same for all school personnel.

When looking at attitudes toward school-based services, the occupational therapy students' responses were different from occupational therapy personnel (both rural and urban) on items which reflected of knowledge other team members such as regular education teachers, special education teachers, and special education directors. Occupational therapy personnel indicated they felt other team members did not have a good understanding of what occupational therapy is or what specific treatment theories entailed. Students tended to respond neutrally. This could be due to the students' lack of exposure to the educational setting. Additional the personnel attitudes support a need for increased inservice education for the team about occupational therapy's role in special education.

Rural personnel responses varied from both urban therapists and students on items about service provision patterns and the age of the populations to be prioritized. With the large geographic areas covered by rural personnel, alternate patterns of service provision have had to be considered. Rural personnel are also more likely to serve persons throughout their development and into adulthood due to the service structure in rural areas, leading to more varied pattern of age priorities. 75% of urban personnel

prioritized young children; perhaps with multiple staffing, these persons are more likely to specialize on a smaller age range. Students reported equal ratings across all ages to be served. This attitude may reflect the changing attitudes of society and the profession to meet the changing needs of the children with handicaps as they move from childhood to adolescence.

Urban therapists reported they felt regular education teachers are not prepared to meet the needs of children with handicaps in their classrooms. Rural personnel (82%) reported neutral attitudes regarding this statement. Urban districts often employ higher numbers of specialized personnel, such as special education teachers and related service personnel. In rural settings, fewer specialized personnel exist, thus leading to more frequent placement of children with handicaps in the regular classroom thus resulting in regular classroom teachers being experienced in dealing with special needs. Additionally, urban personnel reported they felt teachers are interested in inter-disciplinary work. Rural personnel also agree, but not as strongly. This could be due to urban personnel being more available to teachers with more opportunities at each school. Rural personnel may only serve each school on a weekly basis and with increased travel time between schools may not have the opportunity to consult with teachers or have team meetings as often.

Attitudes regarding administrative support for occupational therapy differed for the groups of occupational therapy personnel. Urban therapists felt administrators supported referrals for services. Almost three-quarters of the rural therapists were neutral on this support. This may be due to the increased accessibility of urban therapists to the administrators, possible because of closer proximity. 91% of the rural personnel indicated neutral attitudes and 9% indicated positive attitudes about principal's parental requests for occupational therapy services. 63% of the urban personnel were neutral and 25% were positive about the same issue. Again, this may be due to the urban personnel being more available to the schools they serve.

Twenty-two of the twenty-five items on the CIQ had similar patterns of choices for all three groups. The three items which varied had very different patterns of responses. In one case the three groups answered very differently from each other. For a second item the rural occupational therapy personnel and the urban occupational therapy personnel had similar patterns with the occupational therapy responding differently. The final item was responded to differently by the two groups of occupational therapy personnel with the students following the trend of the urban personnel. In general students also tended to place more students in the more restrictive settings (special class all day or not for public education). These differences in responses point out several implications for student training. First, students need to become more aware of what can be done to facilitate mainstreamed placement of children with learning problems. This would provide them with the information leading toward attitudes that more closely match the attitudes of practicing clinicians. From other

data presented, rural occupational therapy personnel state teachers are competent to provide education for children with handicaps. Because of the lower incidence of handicapping conditions, and therefore fewer special educators available, support for regular education teachers is a major role for occupational therapy personnel in rural educational settings.

Recommendations:

The following recommendations for preservice training of occupational therapy students were identified from the preliminary data. First, students need a better understanding of the educational system. This includes knowledge of the state and federal laws, educational philosophy, and the process necessary for providing related services. Additionally, occupational therapy personnel need a better understanding of what educators (both regular and special) know and are capable of doing in their classrooms. The occupational therapy personnel will be more capable of facilitating teacher effectiveness in incorporating environmental changes for children with special needs. Secondly, occupational therapy students should understand patterns of service provision and how to use the various patterns effectively. In rural settings where the personnel have higher numbers of schools and children as well as increased mileage, alternatives to direct service must be considered. Students must be taught the importance of empowering others with skills that will be beneficial to these children. The final recommendation is for occupational therapy students to begin the process problem-solving for efficient use of resources. Time, money, space, and equipment resources will continue to be issues in service provision. So occupational therapy personnel must use available resources efficiently.

Occupational therapy continues to be a valued resource in public education. By addressing the specific needs identified by practicing clinicians new graduates can be more well prepared to serve rural educational systems. The beneficial outcomes will not only be for the professionals but also for the children and families receiving services.

Table 1
Occupational Therapy Personnel
Demographic Data

	Rural	Urban
Educational Background		
Bachelor of Science	10 (100%)	19 (100%)
Master of Science	4 (40%)	10 (53%)
Years in OT	3 1/2-18 yrs (Mean=10)	2-20 yrs (Mean=9.5)
Years in Pediatric OT	2-16 yrs (Mean=8)	2-13 yrs (Mean=8)
Years in Public Schools	2-11 (Mean=6)	2-12 (Mean=6)
Services Provided		
Number of Schools Served	1-30 (Mean=7)	1-22 (Mean=11)
Miles Traveled per week	0-125 (Mean=38)	0-325 (Mean=181)
Number of Children Served	12-60 (Mean=41)	23-90 (Mean=56)

Table 2
Preservice Content Areas

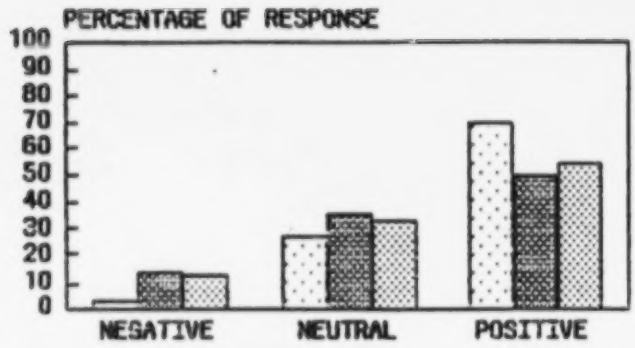
Urban	Rural
Child development (37%)	Evaluation/interpretation (50%)
Communication skills (31%)	Advance Sciences (40%)
Treatment techniques (31%)	Child development (40%)
Writing IEP (26%)	Program development (30%)
Advance Sciences (26%)	Service delivery (30%)
Consultation skills (26%)	Communication (30%)
Evaluation/interpretation skills (26%)	Educational philosophy/ aims (30%)

Table 3
Needs in Occupational Therapy Service Delivery in Educational Settings

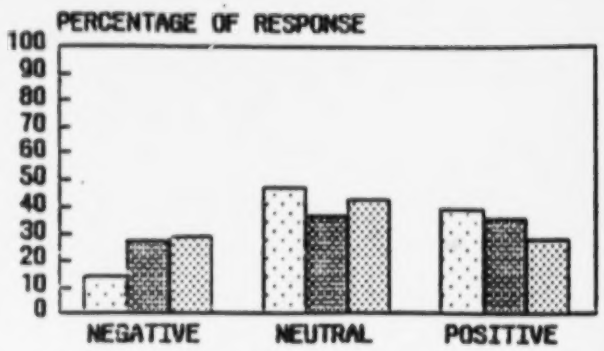
Urban	Rural
Consultation skills (42%)	Caseload/X/Space (100%)
Caseload/Time/Schedule/ (37%)	Consultation (40%)
Money (37%)	Continuing Education Resources (40%)
Continuing Education Resources (32%)	Prioritizing/criteria (30%)
Differentiating Educational/ Medical model (26%)	Service Delivery (21%)
Service Delivery (20%)	Differentiating Medical/ Educational Model (20%)
Treatment Planning Skills (16%)	Function as team member (20%)
Establishing Academically relevant goals (16%)	Use of aids, paraprofessional, COTA (20%)
Function as team members (16%)	Efficient Documentation (20%)
Use of aids, paraprofessional/ or COTA (16%)	Treatment Planning (10%)
Educating about OT (16%)	Establishing Academically Relevant goals (10%)
Efficient documentation (16%)	Monitoring Students (10%)
Early intervention (11%)	Student Preparation (10%)
Student Preparation (11%)	Support for single OT (10%)
Assessment tools (5%)	
Advocacy Role (5%)	

GRAPH 1.

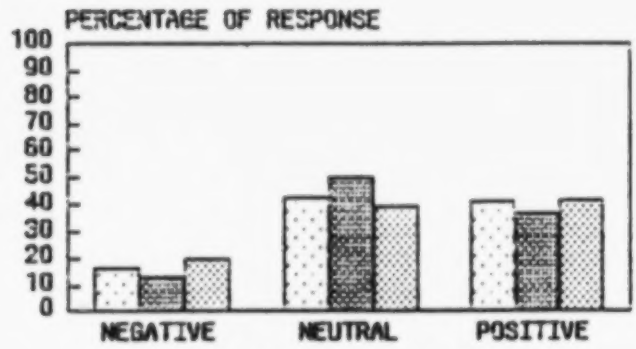
Attitudes Toward School–Based Services



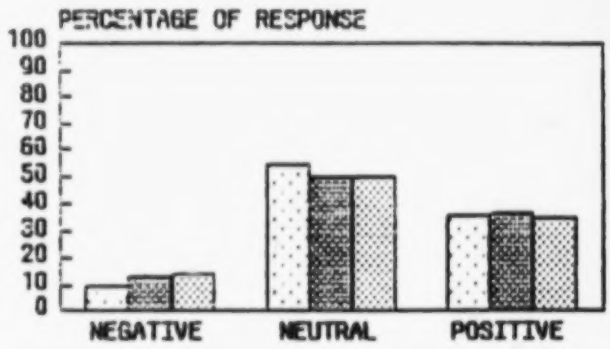
General Issues:
Education for Handicapped



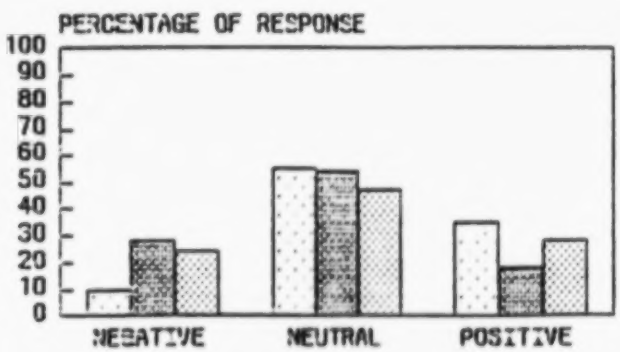
Role of Occupational Therapy in Schools



Interdisciplinary Team Approach



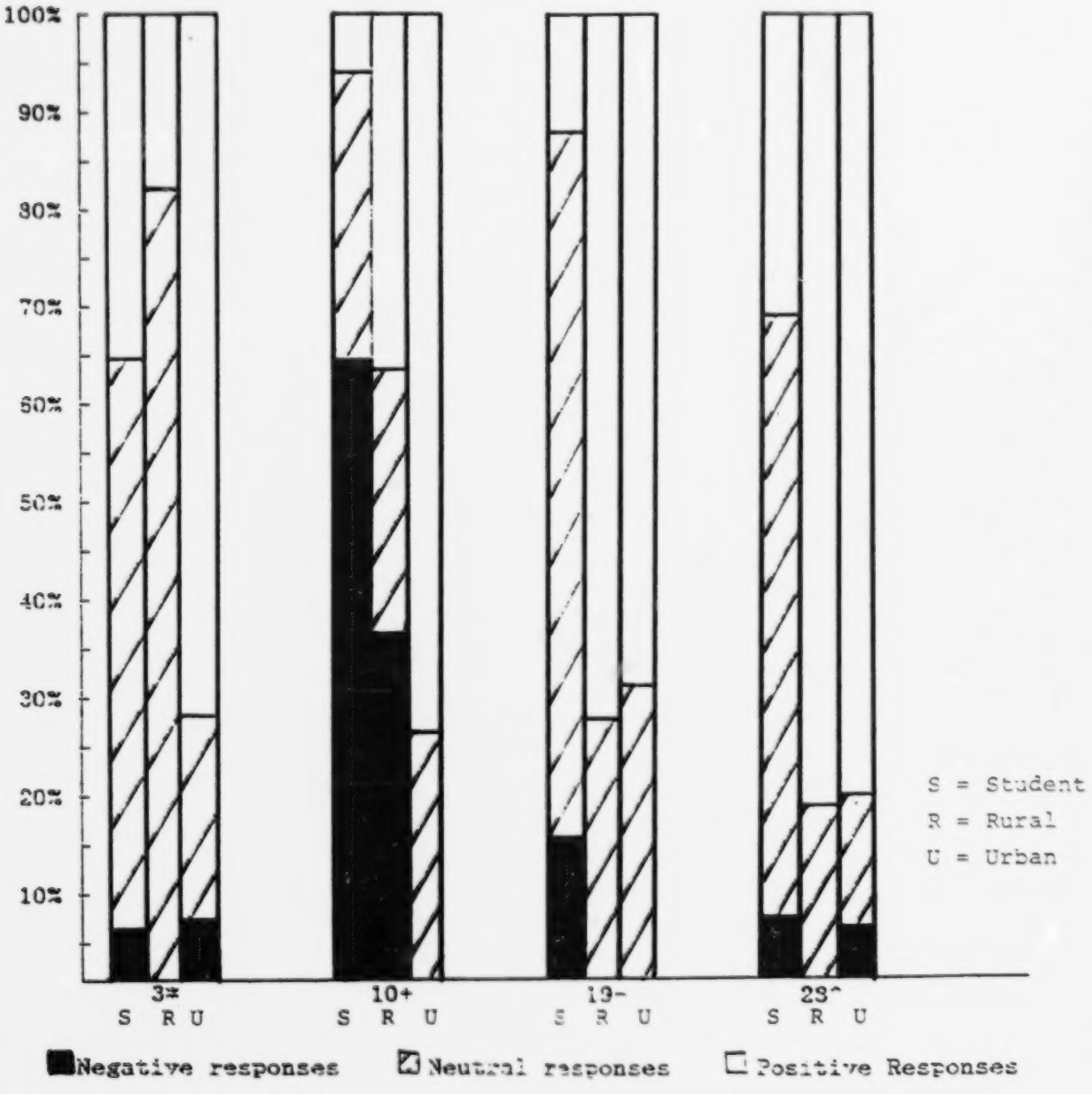
Training of Special Education Personnel



Related Service Issues

O.T. Students O.T. Personnel – Rural O.T. Personnel – Urban

Table 4: Comparison among occupational therapy students, rural occupational therapy practioners and urban occupational therapy practioners on selected items of the Attitudes Toward School Based Services Questionaire.



*3. Teachers in regular classroom programs are not prepared to have handicapped students placed in their classroom.

+10. Occupational therapy has more to offer pre-school and early primary school-aged students than to students enrolled in secondary educational programs.

-19. Teachers do not understand the basic principles of sensory-motor development.

^28. Regular classroom teachers have little knowledge of occupational therapy service.

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